



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/608,907
Applicant: Sommadossi *et al.*
Filed: June 27, 2003
TC/A.AU.: Unassigned
Examiner: Unassigned

Confirmation No.: 2201

Docket No.: 06171.105034 IDX 1018
Customer No.: 20786
Title: Modified 2' and 3'-Nucleoside Prodrugs for Treating Flaviviridae Infections

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Transmittal of Information Disclosure Statement

Sir:

The citation of information on the attached Form PTO-1449, "List of Art Cited by Applicant" is made pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98. Copies of all references are enclosed. The citation of this information does not constitute an admission of priority or that any cited item is available as a reference, or a waiver of any right the applicant may have under applicable statutes, Rules of Practice in patent cases, or otherwise.

Because this Information Disclosure Statement is being submitted before the mailing of a first office action on the merits, the Applicants do not believe that any additional fees are due; however, the Commissioner is hereby authorized to charge any other fees due or credit any overpayment to Deposit Account No. 11-0980.

Respectfully submitted,

Sherry M. Knowles
Reg. No. 33,052

King & Spalding, LLP
191 Peachtree Street, N.E., Atlanta, GA 30303
Office: (404)572-4600/ Fax: 404-572-5145

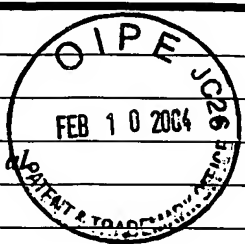
CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on Feb. 4, 2004.

Brent R. Bellows

Please type a plus sign (+) inside this box → ☐

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known		
Application Number		10/608,907				
Filing Date		June 27, 2003				
First Named Inventor		Sommadosi et al.				
Group Art Unit		Unassigned				
Examiner Name		Unassigned				
Attorney Docket Number		06171.105034 IDX 1018				
Sheet	1	of	7			

3405734 1

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages/Relevant Figures Appear	T ⁶
		Number	Kind Code (if known)				
	AA	3,798,209		Wilkowski, <i>et al.</i>	03-19-1974		
	AB	RE29,835		Witkowski <i>et al.</i>	11-14-1978		
	AC	4,522,811		Eppstein <i>et al.</i>	06-11-1985		
	AD	4,957,924		Beauchamp	09-18-1990		
	AE	5,149,794		Yatvin <i>et al.</i>	09-22-1992		
	AF	5,157,027		Biller <i>et al.</i>	10-20-1992		
	AG	5,194,654		Hostetler <i>et al.</i>	03-16-1993		
	AH	5,223,263		Hostetler <i>et al.</i>	06-29-1993		
	AI	5,256,641		Yatvin <i>et al.</i>	10-26-1993		
	AJ	5,411,947		Hostetler <i>et al.</i>	05-02-1995		
	AK	5,463,092		Hostetler <i>et al.</i>	10-31-1995		
	AL	5,543,389		Yatvin <i>et al.</i>	08-06-1996		
	AM	5,543,390		Yatvin <i>et al.</i>	08-06-1996		
	AN	5,543,391		Yatvin <i>et al.</i>	08-06-1996		
	AO	5,554,728		Basava <i>et al.</i>	09-10-1996		
	AP	6,312,662	B1	Erion <i>et al.</i>	11-06-2001		

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages/ Relevant Figures Appear	T ⁶
		Office ³	Number	Kind Code ² (if known)				
	AQ	DE	3,512,781	A1	Soc. Nat. Elf Aquitaine	10-17-1985		
	AR	EP	0,180,276	B1	Stamicarbon B.V.	12-19-1988		
	AS	EP	0,350,287	B1	Chimerix	09-27-2000		
	AT	EP	0,650,371	B1	State of Oregon	11-15-2000		
	AU	WO	89/02733	A1	Regents of the Univ. of California	04-06-1989		
	AV	WO	90/00555	A1	Vical Inc.	01-25-1990		
	AW	WO	91/16920	A1	Vical Inc.	11-14-1991		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

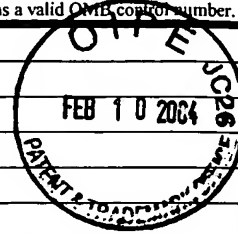
¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete if Known	
				Application Number	10/608,907
				Filing Date	June 27, 2003
				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
				Attorney Docket Number	06171.105034 IDX 1018
2		of		7	



3405734 1

FOREIGN PATENT DOCUMENTS								
Examiner Initials *	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages/ Relevant Figures Appear	T ⁶
		Office ³	Number	Kind Code ² (if known)				
	BA	WO	91/18914	A1	Vical Inc.	12-12-1991		
	BB	WO	91/19721	A1	Glazier	12-26-1991		
	BC	WO	93/00910	A1	Vical Inc.	01-21-1993		
	BD	WO	94/26273	A1	Hostetler	11-24-1994		
	BE	WO	96/15132	A1	Regents of the Univ. of California	05-23-1996		
	BF	WO	99/15194	A1	Schering Corporation	04-01-1999		
	BG	WO	99/43691	A1	Emory; U. Georgia Res. Found.	09-02-1999		
	BH	WO	99/45016	A2	Metabasis Therapeutics Inc.	09-10-1999		
	BI	WO	99/59621	A1	Schering Corporation	11-25-1999		
	BJ	WO	99/64016	A1	Hoffman-La Roche AG	12-16-1999		
	BK	WO	00/24355	A1	Smith & Nephew Kinetic	05-04-2000		
	BL	WO	00/37110	A2&3	Schering Corporation	06-29-2000		
	BM	WO	00/52015	A2&3	Metabasis Therapeutics	09-08-2000		
	BN	WO	01/18013	A1	Metabasis Therapeutics	03-15-2001		
	BO	WO	01/32153	A2	Biochem Pharma	10-05-2001		
	BP	WO	01/47935	A2&3	Metabasis Therapeutics	07-05-2001		
	BQ	WO	01/60315	A2	Biochem Pharma	08-23-2001		
	BR	WO	01/79246	A2&3	Pharmasset	10-25-2001		
	BS	WO	01/81359	A1	Schering Corporation	11-01-2000		
	BT	WO	01/90121	A2&3	Novirio (Idenix); Univ. ... Cagliari	11-29-2000		
	BU	WO	01/92282	A2&3	Novirio (Idenix); Univ. ... Cagliari	06-12-2001		
	BV	WO	01/96353	A2&3	Novirio Pharm. (Idenix); C.N.R.S.	21-20-2001		
	BW	WO	02/057287	A2&3	Merck; Isis Pharmaceuticals	07-25-2002		
	BX	WO	02/057425	A2	Merck; Isis Pharmaceuticals	07-25-2002		
	BY	WO	02/18404	A2&3	Hoffman-La Roche AG	03-07-2002		
	BZ	WO	02/32414	A2&3	Schering Corporation	04-25-2002		
	BAA	WO	02/32920	A2	Pharmasset	04-25-2002		
	BAB	WO	02/48165	A2&3	Pharmasset	06-20-2002		
	BAC	WO	03/024461	A1	Schering Corporation	03-27-2003		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

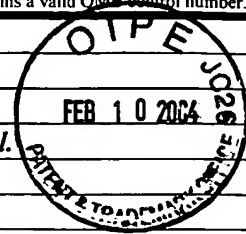
¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number Filing Date First Named Inventor Group Art Unit Examiner Name Attorney Docket Number	10/608,907 June 27, 2003 Sommadossi <i>et al.</i> Unassigned Unassigned 06171.105034 IDX 1018
3	of	7			



3405734 1

FOREIGN PATENT DOCUMENTS								
Examiner Initials *	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages/ Relevant Figures Appear	T ⁶
		Office ³	Number	Kind Code ² (if known)				
	CA	WO	04/003138	A2	Merck & Co., Isis Pharmaceutical	01-08-2004		
	CB	WO	04/007512	A2	Merck & Co., Isis Pharmaceutical	01-22-2004		
	CC	WO	04/009020	A2	Merck & Co., Isis Pharmaceutical	01-29-2004		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶	
	CD	BAGINSKI, S. G. <i>et al.</i> , "Mechanism of action of a pestivirus antiviral compound," <i>PNAS USA</i> , 97(14) : 7981-7986 (2000).		
	CE	BATTAGLIA, A.M. <i>et al.</i> , "Combination Therapy with Interferon and Ribavirin in the Treatment of Chronic Hepatitis C Infection", <i>Ann. Pharmacother</i> , 34:487-494 (2000).		
	CF	BERENGUER, M. <i>et al.</i> , "Hepatitis C virus in the transplant setting", <i>Antivir. Ther.</i> , 3 (Suppl 3):125-136 (1998).		
	CG	BERMAN, E, <i>et al.</i> , "Synergistic cytotoxic effect of azidothymidine and recombinant interferon alpha on normal human bone marrow progenitor cells," <i>Blood</i> , 74(4):1281-1286 (1989)		
	CH	BHAT et al. (Oral Session V, Hepatitis C Virus, Flaviviridae, 2003 (Oral Session V, Hepatitis C Virus, Flaviviridae; 16 th International Conference on Antiviral Research (April 27, 2003, Savannah, Ga.); p A75).		
	CI	BROWNE, M.J., <i>et al.</i> , "2',3'-didehydro-3'-deoxythymidine (d4T) in patients with AIDS or AIDS-Related Complex: A Phase I trial," <i>J. Infect. Dis.</i> , 167(1):21-29 (1993).		
	CJ	COLACINO, J. M., "Review article: Mechanisms for the anti-hepatitis B virus activity and mitochondrial toxicity of fialuridine (FIAU)," <i>Antiviral Res.</i> , 29(2-3): 125-39 (1996).		
	CK	CUI, L., <i>et al.</i> , "Cellular and molecular events leading to mitochondrial toxicity of 1-(2-deoxy-2-fluoro-1-β-D-arabinofuranosyl)-5-iodouracil in human liver cells," <i>J. Clin. Invest.</i> , 95:555-563 (1995).		
	CL	DAVIS, G.L., "Current therapy for chronic Hepatitis C," <i>Gastroenterology</i> 118:S104-S114 (2000).		
	CM	De FRANCESCO, R., <i>et al.</i> , "Approaching a new era for hepatitis C virus therapy: inhibitors of the NS3-4A serine protease and the NS5B RNA-dependent RNA polymerase," <i>Antiviral Research</i> , 58: 1-16 (2003).		
	CN	De LOMBAERT, S., <i>et al.</i> , "N-Phosphonomethyl dipeptides and their phosphonate prodrugs, a new generation of neutral endopeptidase (NEP, EC 3.4.24.11) inhibitors," <i>J. Med. Chem.</i> , 37:498-511 (1994).		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

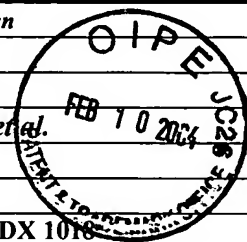
¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Application Number	10/608,907
				Filing Date	June 27, 2003
				First Named Inventor	Sommadossi et al.
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
	4	of	7	Attorney Docket Number	06171.105034 IDX 1018



3405734 1

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	DA	DORNSIFE, R.E., et al., "In vitro potency of inhibition by antiviral drugs of hematopoietic progenitor colony formation correlates with exposure at hemotoxic levels in Human Immunodeficiency Virus-positive humans," <i>Antimicrob. Agents Chemother.</i> , 40(2):514-519 (1996).	
	DB	DYMOCK, B.W., et al., "Review: Novel approaches to the treatment of hepatitis C virus infection," <i>Antiviral Chemistry & Chemotherapy</i> , 11(2):79-95 (2000).	
	DC	ELDRUP et al. (Oral Session V, Hepatitis C Virus, Flaviviridae; 16 th International Conference on Antiviral Research (April 27, 2003, Savannah, Ga.).	
	DD	FARKAS, J., et al., "Nucleic acid components and their analogues. XCIV. Synthesis of 6-amino-9-(1-deoxy-β-D-psicofuranosyl)purine", <i>Collect. Czech. Chem. Commun.</i> 32:2663-2667 (1967).	
	DE	FARKAS, J., et al., "Nucleic acid components and their analogues. LXXIX. Synthesis of methyl 1-deoxy-D-psicofuranosides substituted at C ₍₁₎ with halo atoms or a mercapto group," <i>Collect. Czech. Chem. Commun.</i> , 31:1535-1543 (1996).	
	DF	FARQUHAR, D., et al., "Synthesis and biological evaluation of neutral derivatives of 3-fluoro-2'-deoxyuridine 5'-phosphate," <i>J. Med. Chem.</i> 26: 1153 (1983);	
	DG	FARQUHAR, D., et al., "Synthesis and biological evaluation of 9-[5'-(2-oxo-1,3,2-oxazaphosphorinan-2-yl)-β-D-arabinosyl]adenine and 9-[5'-(2-oxo-1,3,2-dioxazaphosphorinan-2-yl)-β-D-arabinosyl]adenine: Potential neutral precursors of 9-[β-D-arabinofuranosyl]adenine 5'-monophosphate," <i>J. Med. Chem.</i> 28:1358-1381 (1985).	
	DH	FERRARI R., et al., "Characterization of soluble hepatitis C virus RNA-dependent RNA polymerase expressed in <i>Escherichia coli</i> ," <i>Journal of Virology</i> , 73(2), 1649-1654 (1999).	
	DI	FISCHL, M.A., et al., "Zalcitabine compared with zidovudine in patients with advanced HIV-1 infection who received previous zidovudine therapy," <i>Ann. Intern. Med.</i> , 18(10):762-769 (1993).	
	DJ	FREED, J.J., et al., "Evidence for acyloxymethyl esters of pyrimidine 5'-deoxyribonucleotides as extracellular sources of active 5'-deoxyribonucleotides in cultured cells," <i>Biochemical Pharmacology</i> . 38:3193-3198 (1989).	
	DK	GUNIC, E., et al., "Synthesis and cytotoxicity of 4'-C-and 5'-C-substituted Toyocamycins," <i>Bioorg. Med. Chem.</i> , 9:163-170 (2001).	
	DL	HARRY-O'KURU, R.E., J.M. Smith, and M.S. Wolfe, "A short, flexible route toward 2'-C-branched ribonucleosides", <i>J. Org. Chem.</i> 62, 1754-1759 (1997). (Scheme 11).	
	DM	HOSTETLER, K.Y., et al., "Synthesis and antiretroviral activity of phospholipids analogs of azidothymidine and other antiviral nucleosides," <i>J. Biol. Chem.</i> , 265:6112-6117 (1990)	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

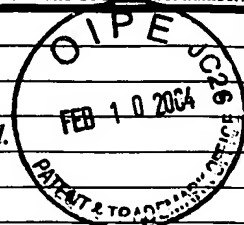
¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/608,907
				Filing Date	June 27, 2003
				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
	5	of	7	Attorney Docket Number	06171.105034 IDX 1018



3405734 1

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	EA	HOSTETLER, K. Y., <i>et al.</i> , "Greatly enhanced inhibition of Human Immunodeficiency Virus Type I replication in CEM and HT4-6C cells by 3'-deoxythymidine diphosphate dimyristoylglycerol, a lipid prodrug of 3'-deoxythymidine," <i>Antimicrob. Agents Chemother.</i> , 36:2025-2029 (September 1992).	
	EB	HUNSTON, R. N., <i>et al.</i> , "Synthesis and biological properties of some cyclic phosphotriesters derived from 2'-deoxy-5-fluorouridine," <i>J. Med. Chem.</i> 27:440-444 (1984).	
	EC	JONES, G. H.; Moffatt, J. G., <i>Methods in Carbohydrate Chemistry</i> ; Whisler, R. L. and Moffatt, J. L. Eds; Academic Press: New York, 1972; 315-322	
	ED	JONES, G. H., <i>et al.</i> , "4'-substituted nucleosides. 5. Hydroxymethylation of nucleoside 5'-aldehydes," <i>J. Org. Chem.</i> , 44:1309-1317 (1979).	
	EF	KHAMNEI, S., "Neighboring group catalysis in the design of nucleotide prodrugs," <i>J. Med. Chem.</i> , 39:4109-4115 (1996).	
	EG	KUCERA, L. S., <i>et al.</i> , "Novel membrane-interactive ether lipid analogs that inhibit infectious HIV-1 production and induce defective virus formation," <i>AIDS Res. Hum. Retro Viruses</i> , 6:491-501 (1990).	
	EH	KURTZBERG J., <i>et al.</i> , "Differential toxicity of carbovir and AZT to human bone marrow hematopoietic progenitor cells in vitro," <i>Exp. Hematol.</i> , 18(10):1094-1096 (1990).	
	EI	LEONARD, N. J., <i>et al.</i> , "5-Amino-5-deoxyribose derivatives. Synthesis and use in the preparation of "reversed" nucleosides" <i>J. Heterocycl. Chem.</i> , 3:485-489 (December 1966).	
	EJ	LERZA, R., <i>et al.</i> , "In vitro synergistic inhibition of human bone marrow hemopoietic progenitor growth by a 3'-azido-3'-deoxy-thymidine, 2',3'-dideoxycytidine combination," <i>Exp. Hematol.</i> , 25(3):252-255 (1997).	
	EK	LEWIS W., <i>et al.</i> , "Zidovudine induces molecular, biochemical, and ultrastructural changes in rat skeletal muscle mitochondria," <i>J. Clin. Invest.</i> , 89(4):1354-1360 (1992).	
	EL	LEWIS, L. D., <i>et al.</i> , "Ultrastructural changes associated with reduced mitochondrial DNA and impaired mitochondrial function in the presence of 2'3'-dideoxycytidine," <i>Antimicrob. Agents Chemother.</i> , 36(9):2061-2065 (1992).	
	EM	LEWIS, W., <i>et al.</i> , "Fialuridine and its metabolites inhibit DNA polymerase γ at sites of multiple adjacent analog incorporation, decrease mtDNA abundance, and cause mitochondrial structural defects in cultured hepatoblasts," <i>Proceedings of the National Academy of Sciences, USA</i> , 93(8): 3592-7 (1996).	
	EN	LOHMANN V., <i>et al.</i> , "Biochemical and kinetic analyses of NS5B RNA-dependent RNA polymerase of the Hepatitis C virus," <i>Virology</i> , 249, 108-118 (1998).	
	EO	LUH, T.-Y., <i>et al.</i> , "A convenient method for the selective esterification of amino-alcohols," <i>Synthetic Communications</i> , 8(5):327-333 (1978).	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

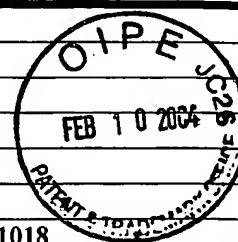
¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/608,907
				Filing Date	June 27, 2003
				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
	6	of	7	Attorney Docket Number	06171.105034 IDX 1018



3405734 1

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶	
	FA	McCORMICK, J., <i>et al.</i> , "Structure and total synthesis of HF-7, a neuroactive glyconucleoside disulfate from the funnel-web spider <i>Hololena curta</i> ," <i>J. Am. Chem. Soc.</i> , 121(24), 5661-5664 (1999).		
	FB	MCKENZIE, R., <i>et al.</i> , "Hepatic failure and lactic acidosis due to fialuridine (FIAU), an investigational nucleoside analogue for chronic hepatitis B," <i>N. Engl. J. Med.</i> , 333(17):1099-1105 (1995).		
	FC	MEDINA, D. J., <i>et al.</i> , "Comparison of mitochondrial morphology, mitochondrial DNA content, and cell viability in cultured cells treated with three anti-Human Immunodeficiency Virus dideoxynucleosides," <i>Antimicrob. Agents Chemother.</i> , 38(8):1824-8 (1994).		
	FD	MEIER, C., <i>et al.</i> , "Cyclic saligenyl phosphotriesters of 2',3'-dideoxy-2',3'-didehydrothymidine (d4T) – A new pro-nucleic approach," <i>Bioorganic & Med. Chem. Letters</i> 7(2):99-104 (1997).		
	FE	MEYER, R.B., Jr., <i>et al.</i> , "2'-O-Acyl-6-thioinosine cyclic 3',5'-phosphates as prodrugs of thioinosinic acid," <i>J. Med. Chem.</i> 22: 811-815 (1979).		
	FF	NEIDLEIN, R., <i>et al.</i> , "Mild preparation of 1-benzyluloxyminoalkylphosphonic dichlorides: Application to the synthesis of cyclic phosphonic diesters and cyclic monoester amides," <i>Heterocycles</i> 35:1185-1203 (1993).		
	FG	NUTT, R.F., <i>et al.</i> , "Branched-chain sugar nucleosides. III. 3'-C-methyladenine," <i>J. Org. Chem.</i> , 33:1789-1795 (1968).		
	FH	OLSEN, <i>et al.</i> (Oral Session V, Hepatitis C Virus, Flaviviridae; 16 th International Conference on Antiviral Research (April 27, 2003, Savannah, Ga.) p A76).		
	FI	PAN-ZHOU, X-R., <i>et al.</i> , "Differential effects of antiretroviral nucleoside analogs on mitochondrial function in HepG2 cells," <i>Antimicrob. Agents Chemother.</i> 44:496-503 (2000).		
	FJ	PIANTADOSI, C., <i>et al.</i> , "Synthesis and evaluation of novel ether lipid nucleoside conjugates for anti-HIV-1 activity," <i>J. Med. Chem.</i> 34:1408-1414 (1991).		
	FK	RICHTMAN, D.D., <i>et al.</i> , "The toxicity of azidothymidine (AZT) in the treatment of patients with AIDS and AIDS-Related Complex," <i>N. Engl. J. Med.</i> , 317(4):192-197 (1987).		
	FL	SOMMADOSSI J-P., <i>et al.</i> , "Comparison of cytotoxicity of the (-)- and (+)- enantiomer of 2',3'-dideoxy-3'-thiacytidine in normal human bone marrow progenitor cells," <i>Biochemical Pharmacology</i> 44(10):1921-1925 (1992).		
	FM	SOMMADOSSI J.-P., <i>et al.</i> , "Toxicity of 3'-azido-3'-deoxythymidine and 9-(1,3-dihydroxy-2-propoxymethyl)guanine for normal human hematopoietic progenitor cells in vitro," <i>Antimicrobial Agents and Chemotherapy</i> , 31:452-454 (1987).		
	FN	STARRETT, J.E.Jr., <i>et al.</i> , "Synthesis, oral bioavailability determination, and <i>in vitro</i> evaluation of prodrugs of the antiviral agents 9-(2-(phosphonomethoxy)ethyl)adenine (PMEA)," <i>J. Med. Chem.</i> 37: 1857-1864 (1994).		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	10/608,907
				Filing Date	June 27, 2003
				First Named Inventor	Sommadossi <i>et al.</i>
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
	7	of	7	Attorney Docket Number	06171.105034 IDX 1018

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	GA	WEINBERG, R.S., <i>et al.</i> , "Effect of antiviral drugs and hematopoietic growth factors on <i>in vitro</i> erythropoiesis," <i>Mt. Sinai J. Med.</i> 1998;65(1):5-13.	
	GB	YARCHOAN, R., <i>et al.</i> "Long-term toxicity / activity profile of 2',3'-dideoxyinosine in AIDS or AIDS-related complex," <i>The Lancet</i> , 336(8714):526-529 (1990).	
	GC	YOSHIDA Y, <i>et al.</i> , "Reversal of azidothymidine-induced bone marrow suppression by 2',3'-dideoxythymidine as studied by hemopoietic clonal culture," <i>AIDS Res. Hum. Retroviruses</i> , 6(7):929-932 (1990).	
	GD	ZON, G., "Cyclophosphamide Analogues," Chapter 4 in <i>Progress in Medicinal Chemistry</i> , Vol. 19, G.P. Ellis and G.B. West, Eds., pp. 205-246 (1982).	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.